\_\_\_\_\_

Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2010; month=2; day=19; hr=9; min=49; sec=13; ms=590; ]

\_\_\_\_\_

## Validated By CRFValidator v 1.0.3

Application No: 10021753 Version No: 3.0

Input Set:

Output Set:

**Started:** 2010-02-12 09:32:45.630

Finished: 2010-02-12 09:32:46.621

**Elapsed:** 0 hr(s) 0 min(s) 0 sec(s) 991 ms

Total Warnings: 9

Total Errors: 0

No. of SeqIDs Defined: 12

Actual SeqID Count: 12

Error code		Error Description											
W	402	Undefined organism found in <213> in SEQ ID (3)											
W	402	Undefined organism found in <213> in SEQ ID (5)											
W	402	Undefined organism found in <213> in SEQ ID (6)											
W	402	Undefined organism found in <213> in SEQ ID (7)											
W	402	Undefined organism found in <213> in SEQ ID (8)											
W	402	Undefined organism found in <213> in SEQ ID (9)											
W	213	Artificial or Unknown found in <213> in SEQ ID (10)											
W	213	Artificial or Unknown found in <213> in SEQ ID (11)											
W	213	Artificial or Unknown found in <213> in SEQ ID (12)											

## SEQUENCE LISTING

<110			EDWAE		.Н.											
<120			OS Al											IN		
<130	)> UI	ГSН:2	251US	5												
<140 <141			1753 -10-3	30												
<150 <151			4,410 10-30													
<160	)> 12	2														
<170	)> Pá	atent	In V	Ver.	2.1											
<212	.> 83 ?> D1	1A	sapie	ens												
<220	)>															
	.> CI ?> (9		.(613	3)												
<400		gag (	cgcc	gete	cg go	ctgca	accgo	c gct	tagat	ccg	agti	ctcaq	ggc t	tcgt	gctaag	60
ctaç	lcdco	egt d	egte	gteto	cc ct	itcaç	gtego	c cat							ac ctc sp Leu	115
			gat Asp													163
			ttg Leu													211
_			att Ile	_	_	_						_		_		259
			ggc Gly													307
			aac Asn													355

								_						aaa Lys		403
		_	_		_	_	_							gct Ala	_	451
			_											ttc Phe		499
		_		_					_					gac Asp 150		547
_		_										_	_	ggt Gly		595
_	atg Met	_			taa	caaa	atgto	ggc a	aatta	attt	g ga	atcta	atca	C		643
ctgt	cato	cat a	aacto	ggctt	ta tạ	gctto	gtcat	cca	acaca	aaca	ccag	ggact	ta a	agaca	aaatgg	703
gact	gato	gtc a	atctt	gago	ct ct	tcat	ttat	ttt	gact	gtg	attt	attt	gg a	agtg	gaggca	763
ttgt	tttt	aa q	gaaaa	aacat	ig to	catgt	aggt	tgt	ctaa	aaaa	taaa	atgo	cat 1	ttaaa	actcat	823
ttga	agag															830
<210> 2 <211> 172 <212> PRT <213> Homo sapiens																
<211 <212	l> 1 <sup>-</sup> 2> PE	RT	sapi∈	ens												
<211 <212 <213 <400	l> 1 <sup>-</sup> 2> PE 3> Ho	RT omo s	-		Asp	Leu	Ile	Ser	His	Asp	Glu	Met	Phe	Ser	Asp	
<213 <213 <213 <400 Met	l> 1 <sup>-</sup> 2> PE 3> Ho 0> 2 Ile	RT omo s Ile	Tyr	Arg 5	_				10	_				15	_	
<213 <213 <400 Met 1 Ile	l> 1 <sup>-</sup> 2> PH 3> Ho 0> 2 Ile Tyr	RT omo s Ile Lys	Tyr Ile 20	Arg 5 Arg	Glu	Ile	Ala	Asp 25	10 Gly	Leu	Cys	Leu	Glu 30	15 Val	Glu	
<213 <213 <400 Met 1 Ile	l> 1 <sup>-</sup> 2> PH 3> Ho 0> 2 Ile Tyr	RT omo s Ile Lys	Tyr Ile 20	Arg 5 Arg	Glu	Ile	Ala	Asp 25	10 Gly	Leu	Cys	Leu	Glu 30	15	Glu	
<213 <213 <400 Met     1 Ile	l> 1 2> PE 3> Ho 0> 2 Ile Tyr Lys	Ile Lys Met 35	Tyr Ile 20 Val	Arg 5 Arg Ser	Glu	Ile Thr	Ala Glu 40	Asp 25 Gly	10 Gly Asn	Leu	Cys Asp	Leu Asp 45	Glu 30 Ser	15 Val	Glu	
<213 <213 <400 Met     1 Ile Gly Gly	l> 172> PE3> Ho CO 2 Ile Tyr Lys Gly 50	Ile Lys Met 35 Asn	Tyr Ile 20 Val	Arg 5 Arg Ser	Glu Arg Ala	Ile Thr Glu 55	Ala Glu 40 Gly	Asp 25 Gly Pro	10 Gly Asn Glu	Leu Ile Gly	Cys Asp Glu 60	Leu Asp 45 Gly	Glu 30 Ser Thr	15 Val Leu	Glu Ile Ser	
<213 <213 <400 Met     1 Ile Gly Thr 65	l> 17 2> PE 3> Ho 0> 2  Ile Tyr Lys Gly 50 Val	Ile Lys Met 35 Asn	Tyr Ile 20 Val Ala	Arg 5 Arg Ser Gly	Glu Arg Ala Val 70	Ile Thr Glu 55 Asp	Ala Glu 40 Gly Ile	Asp 25 Gly Pro Val	10 Gly Asn Glu Met	Leu Ile Gly Asn 75	Cys Asp Glu 60 His	Leu Asp 45 Gly His	Glu 30 Ser Thr	15 Val Leu Glu	Glu Ile Ser Glu 80	
<213 <213 <400 Met     1 Ile Gly Gly Thr     65 Thr	l> 172> PH 3> Ho 0> 2 Ile Tyr Lys Gly 50 Val	Ile Lys Met 35 Asn Ile	Tyr Ile 20 Val Ala Thr	Arg 5 Arg Ser Gly Lys 85	Glu Arg Ala Val 70 Glu	Ile Thr Glu 55 Asp	Ala Glu 40 Gly Ile	Asp 25 Gly Pro Val	10 Gly Asn Glu Met Lys 90	Leu Ile Gly Asn 75 Tyr	Cys Asp Glu 60 His	Leu Asp 45 Gly His	Glu 30 Ser Thr Leu Asp	15 Val Leu Glu Gln	Glu Ile Ser Glu 80 Met	
<213 <213 <400 Met     1 Ile Gly Thr     65 Thr Lys	l> 17 2> PH 3> Ho 0> 2 Ile Tyr Lys Gly 50 Val Ser	Ile Lys Met 35 Asn Ile Phe Ile	Tyr Ile 20 Val Ala Thr Thr Lys 100	Arg 5 Arg Ser Gly Lys 85 Gly	Glu Arg Ala Val 70 Glu Lys	Ile Thr Glu 55 Asp Ala Leu	Ala Glu 40 Gly Ile Tyr	Asp 25 Gly Pro Val Lys Glu 105	10 Gly Asn Glu Met Lys 90 Gln	Leu Ile Gly Asn 75 Tyr Arg	Cys Asp Glu 60 His	Leu Asp 45 Gly His Lys	Glu 30 Ser Thr Leu Asp Arg 110	15 Val Leu Glu Gln Tyr 95	Glu Ile Ser Glu 80 Met	

<210> 3

<211> 172

<212> PRT

<213> Rabbit

<400> 3

Met Ile Ile Tyr Arg Asp Leu Ile Ser His Asp Glu Met Phe Ser Asp
1 10 15

Ile Tyr Lys Ile Arg Glu Ile Ala Gly Gly Leu Cys Leu Glu Val Glu
20 25 30

Gly Lys Met Val Ser Arg Thr Glu Gly Asn Ile Asp Asp Ser Leu Ile 35 40 45

Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ser 50 55

Thr Val Ile Thr Gly Val Asp Ile Val Met Asn His His Leu Gln Glu 65 70 75 80

Thr Ser Phe Thr Lys Glu Ala Tyr Lys Lys Tyr Ile Lys Asp Tyr Met
85 90 95

Lys Ser Ile Lys Gly Lys Leu Glu Glu Gln Arg Pro Glu Arg Val Lys
100 105 110

Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn 115 120 125

Phe Lys Asn Tyr Gln Phe Tyr Ile Gly Glu Asn Met Asn Pro Asp Gly 130 135 140

Met Val Ala Leu Leu Asp Tyr Arg Glu Asp Gly Val Thr Pro Phe Met 145 150 150

Ile Phe Phe Lys Asp Gly Leu Glu Met Glu Lys Cys
165 170

<210> 4

<211> 172

<212> PRT

<213> Mus musculus

<400> 4

Met Ile Ile Tyr Arg Asp Leu Ile Ser His Asp Glu Leu Phe Ser Asp
1 10 15

Ile Tyr Lys Ile Arg Glu Ile Ala Asp Gly Leu Cys Leu Glu Val Glu

20 25 30

Gly Lys Met Val Ser Arg Thr Glu Gly Ala Ile Asp Asp Ser Leu Ile 35 40 45

Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ser 50 60

Thr Val Val Thr Gly Val Asp Ile Val Met Asn His His Leu Gln Glu 65 70 75 80

Thr Ser Phe Thr Lys Glu Ala Tyr Lys Lys Tyr Ile Lys Asp Tyr Met
85 90 95

Lys Ser Leu Lys Gly Lys Leu Glu Glu Gln Lys Pro Glu Arg Val Lys
100 105 110

Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn 115 120 125

Phe Asn Asn Tyr Gln Phe Phe Ile Gly Glu Asn Met Asn Pro Asp Gly 130 135

Met Val Ala Leu Leu Asp Tyr Arg Glu Asp Gly Val Thr Pro Phe Met 145 150 150

Ile Phe Phe Lys Asp Gly Leu Glu Met Glu Lys Cys
165 170

<210> 5

<211> 172

<212> PRT

<213> Chicken

<400> 5

Met Ile Ile Tyr Arg Asp Cys Ile Ser Gln Asp Glu Met Phe Ser Asp 1 5 10

Ile Tyr Lys Ile Arg Glu Val Ala Asn Gly Leu Cys Leu Glu Val Glu 20 25 30

Gly Lys Met Val Thr Arg Thr Glu Gly Gln Ile Asp Asp Ser Leu Ile 35 40 45

Gly Gly Asn Ala Ser Ala Glu Gly Pro Glu Gly Glu Gly Thr Glu Ala 50 60

Thr Val Ile Thr Gly Val Asp Ile Val Ile Asn His His Leu Gln Glu 65 70 75 80

Thr Ser Phe Thr Lys Glu Ser Tyr Lys Lys Tyr Ile Lys Asp Tyr Met 85 90 95

Lys Ala Ile Lys Ala Arg Leu Glu Glu His Lys Pro Glu Arg Val Lys

100 105 110

Pro Phe Met Thr Gly Ala Ala Glu Gln Ile Lys His Ile Leu Ala Asn Phe Lys Asn Tyr Gln Phe Phe Ile Gly Glu Asn Met Asn Pro Asp Gly Met Val Ala Leu Leu Asp Phe Arg Glu Asp Gly Val Thr Pro Tyr Met Ile Phe Phe Lys Asp Gly Leu Glu Ile Glu Lys Cys <210> 6 <211> 172 <212> PRT <213> D. Melanogaster <400> 6 Met Lys Ile Tyr Lys Asp Ile Ile Thr Gly Asp Glu Met Phe Ala Asp Thr Tyr Lys Met Lys Leu Val Asp Asp Val Ile Tyr Glu Val Tyr Gly Lys Leu Ile Thr Arg Gln Gly Asp Asp Ile Lys Leu Glu Gly Ala Asn Ala Ser Ala Glu Glu Ala Asp Glu Gly Thr Asp Ile Thr Ser Glu Ser Gly Val Asp Val Val Leu Asn His Arg Leu Thr Glu Cys Phe Ala Phe Gly Asp Lys Lys Ser Tyr Thr Leu Tyr Leu Lys Asp Tyr Met Lys Lys Val Leu Ala Lys Leu Glu Glu Lys Ser Pro Asp Gln Val Asp Ile Phe Lys Thr Asn Met Asn Lys Ala Met Lys Asp Ile Leu Gly Arg Phe Lys Glu Leu Gln Phe Phe Thr Gly Glu Ser Met Asp Cys Asp Gly Met Val Ala Leu Val Glu Tyr Arg Glu Ile Asn Gly Asp Ser Val Pro Val Leu Met Phe Phe Lys His Gly Leu Glu Glu Lys Cys 

<210> 7 <211> 181 <212> PRT <213> C. ELEGANS <400> 7

Met Leu Ile Tyr Lys Asp Ile Ile Ser Asp Asp Glu Leu Ser Ser Asp

1 10 15

Ser Phe Pro Met Lys Leu Val Asp Asp Leu Val Tyr Glu Phe Lys Gly
20 25 30

Lys His Val Val Arg Lys Glu Gly Glu Ile Val Leu Ala Gly Ser Asn 35 40 45

Pro Ser Ala Glu Glu Gly Ala Glu Asp Asp Gly Ser Asp Glu His Val
50 55 60

Glu Arg Gly Ile Asp Ile Val Leu Asn His Lys Leu Val Glu Met Asn 65 70 75 80

Cys Tyr Glu Asp Ala Ser Met Phe Lys Ala Tyr Ile Lys Lys Phe Met
85 90 95

Lys Asn Val Ile Asp His Met Glu Lys Asn Asn Arg Asp Lys Ala Asp
100 105 110

Val Asp Ala Phe Lys Lys Ile Gln Gly Trp Val Val Ser Leu Leu 115 120 125

Ala Lys Asp Arg Phe Lys Asn Leu Ala Phe Phe Ile Gly Glu Arg Ala 130 135 140

Ala Glu Gly Ala Glu Asn Gly Gln Val Ala Ile Ile Glu Tyr Arg Asp 145 150 150

Val Asp Gly Thr Glu Val Pro Thr Leu Met Leu Val Lys Glu Ala Ile 165 170 175

Ile Glu Glu Lys Cys 180

<210> 8

<211> 166

<212> PRT

<213> S. Cerevisiae

<400> 8

Met Ile Ile Tyr Lys Asp Ile Phe Ser Asn Asp Glu Leu Leu Ser Asp 1 5 10 15

Ala Tyr Asp Ala Lys Leu Val Asp Asp Val Ile Tyr Glu Ala Asp Cys
20 25 30

Ala Met Val Asn Val Gly Gly Asp Asn Ile Asp Ile Gly Ala Asn Pro 35 40 45

Ser Ala Glu Gly Gly Asp Asp Val Glu Glu Gly Ala Glu Met Val
50 55 60

Asn Asn Val Val His Ser Phe Arg Leu Gln Gln Thr Ala Phe Asp Lys Lys Ser Phe Leu Thr Tyr Ile Lys Gly Tyr Met Lys Ala Val Lys Ala Lys Leu Gln Glu Thr Asn Pro Glu Glu Val Pro Lys Phe Glu Lys Gly Ala Gln Thr Tyr Val Lys Lys Val Ile Gly Ser Phe Lys Asp Trp Glu Phe Phe Thr Gly Glu Ser Met Asp Pro Asp Ala Met Val Val Met Leu Asn Tyr Arg Glu Asp Gly Thr Thr Pro Phe Val Ala Ile Trp Lys His Gly Ile Val Glu Glu Lys <210> 9 <211> 168 <212> PRT <213> RICE <400> 9 Met Leu Val Tyr Gln Asp Leu Leu Tyr Gly Asp Glu Leu Leu Ser Asp Ser Phe Pro Tyr Arg Glu Ile Glu Asn Gly Ile Leu Trp Glu Val Asp Gly Lys Trp Val Val Gln Gly Ala Ile Asp Val Asp Ile Gly Ala Asn Pro Ser Ala Glu Gly Gly Gly Asp Asp Glu Gly Val Asp Asp Gln Ala Val Lys Val Val Asp Ile Val Asp Thr Phe Arg Leu Gln Glu Gln Pro Pro Phe Asp Lys Lys Gln Phe Val Thr Phe Met Lys Arg Tyr Ile Lys Asn Leu Ser Ala Lys Leu Asp Ala Glu Lys Gln Glu Glu Phe Lys Phe Asn Ile Glu Gly Ala Thr Lys Tyr Leu Leu Gly Lys Leu Lys Asp Leu Gln Phe Phe Val Gly Glu Ser Met His Asp Asp Gly Gly Leu Val Phe Ala Tyr Tyr Lys Asp Gly Ala Thr Asp Pro Thr Phe Leu Tyr Phe Ser

```
<210> 10
<211> 22
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      Peptide
<400> 10
Cys Lys Tyr Ile Lys Asp Tyr Met Lys Ser Ile Lys Gly Lys Leu Glu
 1
                  5
                                     10
                                                         15
Glu Gln Arg Pro Glu Arg
             20
<210> 11
<211> 21
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      Peptide
<400> 11
Leu Glu Thr Leu Arg Arg Val Gly Asp Gly Val Gln Arg Asn His Glu
                                                         15
 1
                                     10
Thr Val Phe Gln Gly
             20
<210> 12
<211> 18
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      Peptide
<400> 12
Arg Asp Leu Ile Ser His Asp Glu Met Phe Ser Asp Ile Tyr Lys Ile
                                                         15
                                     10
```

His Gly Leu Lys Glu Val Lys Cys

Arg Glu